CLAIMS

1. A method for the preparation of a cross-linked hydrophilic coating of a hydrophilic polymer on a substrate polymer surface of a medical device, said method comprising the steps of:

(i) providing a medical device comprising a substrate polymer having the substrate polymer surface,

(ii) providing a polymer solution comprising 1-20% by weight of a hydrophilic polymer, 0-5% by weight of additive(s), and the balance of a vehicle with plasticizing effect on the hydrophilic polymer, said vehicle comprising at least one plasticizer having a solubility in water of at least 6 g/L, a boiling point above 210°C at 760 mmHg, and a Hansen δ_H parameter of less than 20,

(iii) applying said polymer solution to said substrate polymer surface,

(iv) evaporating at least a part of the vehicle from said polymer solution present on said substrate polymer surface, and curing said hydrophilic polymer.

2. The method according to claim 1, wherein the polymer solution is applied to said substrate polymer surface in one single application step.

3. The method according to any of the preceding claims, wherein the vehicle comprises at least one solvent.

4. The method according to claim 3, wherein the polymer solution consists of:

1-20% by weight of the hydrophilic polymer,
0-5% by weight of additive(s),
1-40% by weight of plasticizer(s), and
50-95% by weight of solvent(s).

5. The method according to any of the preceding claims, wherein the substrate polymer is polyurethane.

6. The method according to any of the preceding claims, wherein the hydrophilic polymer is polyvinyl pyrrolidone.

7. A medical device comprising a substrate polymer surface having thereon a cross-linked hydrophilic coating of a hydrophilic polymer, said medical device being obtainable by the method of any of the claims 1-6.

8. A medical device comprising a hydrophilic coating of a cross-linked hydrophilic polymer, said coating comprising a hydrophilic plasticizer having a solubility in water of at least 6 g/L, a boiling point above 210°C at 760 mmHg, and a Hansen δ_H parameter of less than 20.

9. The medical device according to claim 8, which is prepared according to the method of any of the claims 1-6.

10. Use of a polymer solution for the preparation of a cross-linked hydrophilic coating, said polymer solution comprising 1-20% by weight of a hydrophilic polymer, 0-5% by weight of additive(s), and the balance of a vehicle with plasticizing effect on the hydrophilic polymer, said vehicle comprising at least one plasticizer having a solubility in water of at least 6 g/L, a boiling point above 210°C at 760 mmHg, and a Hansen δ_H parameter of less than 20.